

Bait Pan Insects.

By A. B. CHAMPLAIN and H. B. KIRK, Harrisburg,
Pennsylvania.*

The use of bait pans of fermented syrups to check up on the activities of the oriental fruit moth has resulted in the accumulation of data on a number of other insects that were attracted by these substances.

Two quart pans, filled with molasses and water, including yeast enough to quickly start fermentation, were hung upon alternate trees throughout the peach orchard. The pans, after a time, contained baits of varying proportions and a difference in the comparative values of the different concentrations was noted, but all worked fairly well. The bait with a watery consistency gave better results than the thicker mixture.

This is offered as a suggestion for a unique method of trapping insects, especially beetles, many interesting species being attracted to these fermented syrups that are not often taken in numbers under ordinary collecting conditions.

Moths and butterflies were very much in evidence, but no attempt was made to identify or check up on them with the exception of the oriental fruit moth and several other economic species for comparison, and they will not be considered in this paper. Adult peach tree borers were found in the pans from June 19 until August 24, and by far the greater majority were males.

Adult males of the Sialid, *Chauliodes pectinicornis* Linn., were taken in numbers in the bait pans from June 11th continuously until August 6th. During this period but one female was taken (July 6). It is stated in the New York State Museum Bulletin No. 68, *Aquatic Insects of New York State*, page 457, that the adults have not been known to take food but it is evident from these observations that they are attracted to fermenting syrups. As many as ten males have been taken from one pan. The streams in which these insects breed are between one-eighth and one-quarter of a mile distant.

Lace-wing flies, adults of *Chrysofa* sp., were taken in the

*Received for publication January 28, 1926—EDITOR.

pans from June 22 until August 12 continuously. Sexes not noted.

Very few examples of Orthopterous and Hemipterous insects were taken, and they were considered as accidental introductions.

In the Coleoptera a great variety of material was taken and a number of families were represented by certain characteristic groups of genera and species.

Carabidae were taken at intervals during the summer and it is likely that many of them were accidental or attracted by other insects. Among them were included *Calosoma scrutator* Lec. and *C. calidum* Fab., *Galerita* and a number of smaller forms.

Several specimens of *Necrophorus* and *Silpha surinamensis* were taken, representing the Silphidae.

Necopyrochroa flabellata Fab. was taken a number of times during July and one specimen of *N. femoralis* Lec., of the Pyrochroidae.

Elateridae were represented by a few genera in great numbers and a few individuals of other genera. *Alaus oculatus* (L.) June 6, 16, 19; *Monocrepidius lividus* (DeG.) occurred continuously in considerable numbers from July 5 to August 12; *Limonius* sp., June 19 until July 25; *Ludius hieroglyphicus* (Say) one specimen August 6; *Hemicrepidius memnonius* Hbst., July 15 until August 10; *Parallelostethus attenuatus* (Say), July 6, 15, 20 and 28; *Melanotus* sp. occurred in great numbers throughout the season from June 16 until August 12.

Scarabaeidae were scarce with the exception of one genus—*Euphoria*; our common species, *Euphoria fulgida* (Fab.), was very plentiful in the pans from June 16 until August 12, and *E. inda* Linn. from August 6 until September 28. There were as many as one dozen of the latter taken in one pan during the last part of the season.

Cerambycidae were well represented and it is likely that, were the pans placed in more favorable locations for forest insects, the catch would have been considerably greater.

Chion cinctus (Drury) was taken June 16; and *Eburia quadrigeminata* (Say), July 10 and August 12.

Two species of the Elaphidionini were taken in great numbers during the summer season and it is a curious fact that the great majority of the specimens were males. *Hypermallus villosus* (Fab.), June 11 continuously until Aug. 10; and *Elaphidion mucronatum* (Say), June 16 continuously until August 12.

Of the *Lepturini*, *Gaurotes cyanipennis* (Say) was taken June 19 and July 1; *Strangalepta vittata* (Oliv.), June 22; *Strophiona nitens* (Forst.), July 3 and 15; *Typocerus velutina* (Oliv.), July 15 to 30; *Ophistomis luteicornis* (Fab.), June 22 to July 25, continuously.

Cyllene robiniae (Forst.) taken October 23; *Arhopalus fulminans* (Fab.), June 19 to 23; *Xylotrechus acuminatus* (Fab.) several on June 22.

Purpuricenus humeralis (Fab.), a species not commonly taken in numbers under ordinary collecting conditions, was plentiful from June 19th continuously until August 10. The greater number of individuals were males. The rare species, *P. axillaris* Hald., was taken from July 1 to 13—a number of fine specimens in perfect condition, both sexes. *Leptostylus aculifer* (Say), June 22.

It is quite likely that a trap line of these pans scattered throughout a forest area would yield some wonderful returns in rare and interesting species of Cerambycidae, and no doubt some new facts might be discovered concerning the feeding habits of these interesting insects. Why the preponderance of males in so many instances? What condition of the fermented mixture contains the attractive agent, and just what is this substance?

Hymenopterous insects were plentiful in the syrup, which was to be expected. Quite a variety of Ichneumonoids were observed and a number of other families represented. The most prevalent were hornets. Common Yellow Jackets (*Vespa* sp.) were taken continuously from June 1 until August 26. *Vespa maculata* occurred in the pans from June 19 until August 12. *Sphex speciosus* was taken July 28, August 4, 6, 12. *Polistes* sp. occurred from June 22 until August 26.

Very few honey bees were found in the pans, the only obser-

vations July 6, 13, 15. Bumble bees were taken plentifully from July 3 continuously until August 4.

Of the Diptera, there were a great number of small species that were not studied. One interesting observation was the presence of male *Tabanus*, especially *T. atratus* which occurred continuously from June 16 until July 23.

Undescribed Species of Crane-flies from the Eastern United States and Canada (Dipt.: Tipulidae). Part III.

By CHARLES P. ALEXANDER, Massachusetts Agricultural College, Amherst, Massachusetts.

In this installment, a few species of the genus *Tipula* are considered, most of them belonging to the so-called *tricolor* group. As before, the majority of the specimens were included in collections received from Professor J. Speed Rogers, collected by himself and Mr. Hubbell. One other specimen was sent by Mr. Curran and another by Mr. C. W. Johnson. My sincere thanks are extended to the above gentlemen for this co-operation.

Tipula brevifurcata sp. n.

Allied to *T. iroquois* Alexander; vertical tubercle produced into a small elevated dusky knob; lateral praescutal stripes entire; median stripe split by a capillary dark brown vitta; male hypopygium with the ninth tergite large, the distal end narrowed into a median decurved lobe that is split at apex, into two short divergent points.

♂. Length about 12 mm.; wing 15.5 mm.

Frontal prolongation of head relatively elongate, pale brown, very sparsely pruinose; nasus short and blunt; palpi brownish black. Antennae with the scapal segments yellow; flagellum black, the extreme bases of the first few segments vaguely paler; antennae of moderate length, if bent backward extending about to the root of the halteres; flagellar segments only moderately incised. Head gray, the vertical tubercle produced into a small elevated dusky knob.

Pronotum obscure yellow. Mesonotal praescutum buffy gray, with three brown stripes, the lateral stripes entire, the median stripe obliterated anteriorly, becoming evident at about